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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/622,619  | 07/17/2003  | Jonathan L. Snover   | LRL 00-9 CIP        | 2656             |
| 27805   | 7590        | 08/30/2005           | EXAMINER            |                  |
| THOMPSON HINE L.L.P.<br>2000 COURTHOUSE PLAZA , N.E.<br>10 WEST SECOND STREET<br>DAYTON, OH 45402 |             |                      | HUG, ERIC J         |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1731                |                  |

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |               |  |
|------------------------------|-----------------|---------------|--|
| <b>Office Action Summary</b> | Application No. | Applicant(s)  |  |
|                              | 10/622,619      | SNOVER ET AL. |  |
|                              | Examiner        | Art Unit      |  |
|                              | Eric Hug        | 1731          |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

Applicant is encouraged to update the Cross Related Applications information to indicate application no. 09/711,387 is now U.S. Patent No. 6,617,362.

### ***Claims Objections***

Claim 6 is missing.

The preamble of claims 2-5 and 7 do not match that of independent claim 1. Claim 1 claims a coated paper and claims 2-5 and 7 claim a coating.

Claim 7 does not limit the subject matter of claim 1, because it pertains to the coating itself and not to the structure of the claimed coated paper.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5 and 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Imabeppu et al (US 6,096,157).

Imabeppu discloses a coated paper for ink jet recording prepared with an undercoating layer containing alumina and an adhesive, examples of which may include polyvinyl

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alcohol (column 5, lines 12-26). The amount of the adhesive is 5 to 50 parts per 100 parts of alumina. The undercoating layer can further comprise a cationic resin, including a resin containing a quaternary ammonium group (column 7, lines 27-44). The amount of the cationic resin is 1 to 30 parts per 100 parts of alumina. The coating itself contains up to 65% solids (column 7, lines 45-50). Thus, the amounts of alumina, nonionic material (adhesive), and cationic material read on the claimed ranges. The coating is applied at a weight of 2-50 g/m<sup>2</sup> (column 7, line 49). The coating may be applied by a blade coater, an air knife coater, a roll coater, a brush coater, a Champflex coater, a bar coater, or a gravure coater. The coating is dried at elevated temperatures (see Examples). After drying, the undercoating layer can be further subjected to a smoothing treatment, such as super-calendering, brushing, or cast-finishing (see column 7, lines 50-56).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7, and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaliski et al (US 3,804,656).

Kaliski discloses a fluid dispersed suspension of clay (alumina-containing pigment) in the presence of the combination of a nonionic surface active agent and a cationic surface active agent at an alkaline pH. The suspension is suitable for coating paper. The nonionic species may include mono-alcohols or glycols (column 3, lines 41-56). The cationic compounds include quaternary ammonium salts (column 3, line 58 to column 4, line 12). A dispersion of up to 65 percent solids may be prepared (column 4, lines 40-55). The nonionic dispersant is used in amount within the range of 0.1 percent to 0.5 percent, based on the weight of the pigment. The cationic surface active agent is also in an amount within the range of 0.1 percent to 0.5 percent of the pigment. The ratio of nonionic surfactant to cationic surfactant is within the range of from about 20 to 80 parts by weight nonionic surfactant to 80 to 20 parts by weight cationic surfactant. The quantities of nonionic and cationic material appear to fall short of the claimed weight percentages of nonionic and cationic species, however any deviation between the amounts of nonionic and cationic materials disclosed by Kaliski and the amounts claimed is considered to be obvious optimization of the dispersion, depending on the exact species of pigment, nonionic material, and cationic material, other materials that may be present, and on the pH. It would

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have been obvious to one skilled in the art to optimize the levels of nonionic and cationic materials to properly disperse the pigment and provide the desired rheological properties for the end use. The coated papers of Kaliski have a coating weight of up to  $10 \text{ g/m}^2$ . Using conversions of  $3300 \text{ ft}^2 = 307 \text{ m}^2$  and  $1 \text{ lb} = 454 \text{ g}$ , the claimed range of 2 to 8 lb/3300  $\text{ft}^2$  is equivalently about 3 to 12  $\text{g/m}^2$ . Thus, the amount of coating used by Kaliski reads on the claimed range of coating weight. The sheets can be calendered or uncalendered (see column 8, lines 57-64), thus can be mechanically treated. The coating may be applied by size press, air knives, or blades (column 6, lines 1-2), thus is properly metered. Coated sheets are subsequently dried. A Brookfield viscosity of 3000 cp at 10 rpm using a No. 3 spindle is disclosed (column 7, lines 65-67). It is felt that this reads on or obviates the claimed viscosity, because the methods of measuring do not differ substantially.

3. Claims 1-5 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable Okura et al (US 6,670,037) in view of Yoshino et al (US 6,576,324).

Okura discloses a coating agent for an ink-jet printing paper comprising an alumina dispersion containing dispersed alumina in an aqueous dispersing medium, and a binder. Various alumina species are disclosed in column 3. The dispersion has as much as 60% alumina (see column 3, lines 36-46) and has a viscosity of 5-1000 cps. The dispersing medium may contain a polyvinyl alcohol binder (see column 5) in a solvent of mono or poly alcohols. The binder is present in an amount such that the ratio of alumina/binder is 5/1 to 12/1. The polyvinyl alcohol reads on nonionic materials. Metal nitrates are used as dispersants (see section (3) starting at column 3, line 58) in an amount of 1 to 10 parts of the alumina. The coating operation may be

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carried out by using a blade coater, reverse coater, die coater, comma coater, or air knife, by aerosol spraying, pumping, spraying, brush coating, spatula coating, or rod coating. The coating agent may be coated directly or via a primer on the base (see column 7, lines 1-30). Other dispersing materials and surface active agent can be used, but are not specified (see "Other Additives" in column 6). However, Okura discloses in column 1 the known use of organic cationic materials in ink-jet coating formulations containing alumina to assist in the fixation of inks onto the paper.

Yoshino is cited here to exemplify the known use of cationic additives in formulations containing alumina and polyvinyl alcohol or other non-ionic binders. In Yoshino, such additives include various salts of divalent or still higher polyvalent metals and cationic organic substances. These include metal nitrates, such as those used by Okura and examples of the cationic organic substances include quaternary ammonium salts. The amount of the additives to be added may preferably be 20% by weight or less of the alumina. See column 15, line 19 to column 6, line 2 of Yoshino. The base material used for forming the ink-receiving layer may be previously coated (column 16, lines 3-14). Yoshino also discloses known coat weights in ink-jet papers are 0.5 to 60 g/m<sup>2</sup>, which encompasses the range of 2 to 8 lb/3300 ft<sup>2</sup>. Therefore, at the time of the invention it would have been obvious to one skilled in the art to use an ink-jet coating formulation containing alumina, polyvinyl alcohol, and inorganic and/or organic cationic dispersants at least within the claimed quantities, and to apply the coating at least within the range of 2 to 8 lb/3300 ft<sup>2</sup>. All other claimed features are disclosed by Okura and Yoshino.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

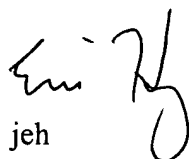
Shaw (US 4,046,946) discloses a coating including alumina-containing silica and a resinous binder that is mixed cationic and nonionic.

Honjo et al (US 3,720,514) discloses an electrophotographic paper coated with a compound comprising colloidal alumina.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192. The examiner can normally be reached on Monday through Friday, 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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